

FURTHER NEW RECORDS OF FISH IN NEW ZEALAND WATERS

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Abstract. Seven species of fish are recorded for the first time from New Zealand waters.

The species recorded herein have been caught over several years from a wide range of habitats, mostly of deeper waters, by long-lining, scuba diving or trawling. The previously known distributions of these fishes, in South African, Indo-Pacific and Australian waters, suggest they are part of a widespread offshore fauna.

Material for this publication comes from collections in the Auckland and Dominion Museums.

Family GADIDAE

***Tripterophycis gilchristi* Boulenger**

(Fig. 1)

Tripterophycis gilchristi Boulenger, 1902, Ann. Mag. nat. Hist. (7) 9: 335-336.

Material examined. E. of Aldermen Is, trawled 200-260 fm (365-475m), 28-31. V. 1969, C. Wormald. Bay of Plenty, 37° 20' S, 176° 26' E, trawled 270 fm (493m), Dominion Museum (DM) station 209, 27. II. 1957, DM 2146. N 20 E of Motiti I, 290 fm (530 m), 20. IX. 1962, DM 3503. Off Poor Knights Is, 305-340 fm (557-621 m), 11. XI. 1962, DM 3512. N of Cavalli Is, 350 fm (640 m), 23. XI. 1962, DM 3521. E of Whale Is, 328-400 fm (599-731 m), 30. IX. 1962, DM 3534. NE of Cuvier I, 260-270 fm (475-493 m), 8. XI. 1962, DM 3566. N of Cape Brett, 400 fm (731 m), 22. XI. 1962, DM 3570. N of Mayor I, 200 fm (365 m), 28. IX. 1962, DM 3575. Between Aldermen Is and Red Mercury I, 250 fm (459 m), 25. IX. 1962, DM 3587.

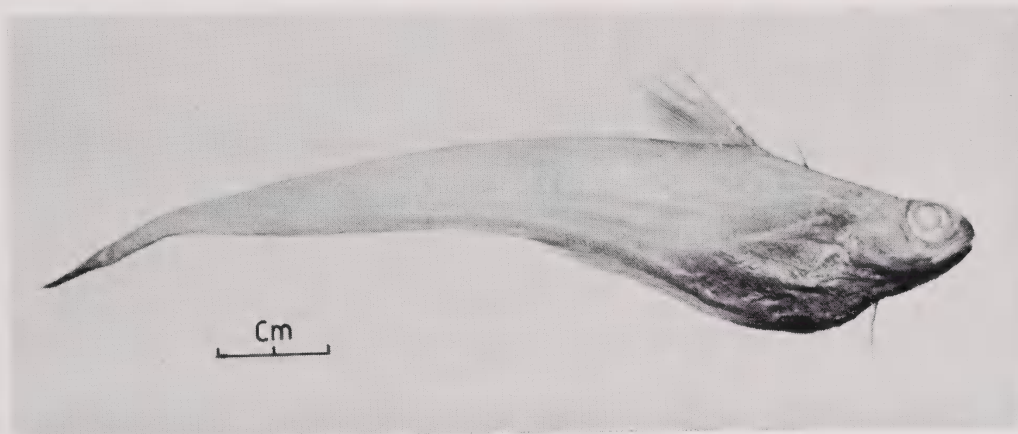


Fig. 1. *Tripterophycis gilchristi* Boulenger. Lateral view.

Depth at anal origin 7.5 - 4.4, head 4.1 - 6.2 in standard length (79 - 193 mm). Eye 3.8 - 2.5, snout 7.6 - 5.6 in head. Interorbital 1.2 - 1.4 in eye. Gill rakers (1 specimen, 176 mm), 10 + 4, narrowly ovate, curve obliquely inward, lightly spiked along inner face especially at base. D iv 13 37, A 105, P 18, V 4.

The deciduate nature of the scales prevents accurate counts of scales and lateral line pores.

Variations, in proportional measurements and fin counts, from the description of Boulenger (1902, p. 335-336) can be associated with body size. I agree with Weber and de Beaufort (1929, p. 11) who regarded these slight discrepancies as falling within the species. There seems little justification, however, in Whitley, (1948a, p. 79) *Tripterophycis intermedius*, a species based on apparently normal variation.

Previous distribution. South Africa, Indo-Pacific and Australia.

Family ZEIDAE

Cyttoidops ventralis (Barnard and Davies)

Cyttus ventralis Barnard and Davies, 1946, Ann. Mag. nat. Hist. (11) 8: 790-792.

Material examined. E of Aldermen Is, trawled 200-260 fm (365-475 m), 29-31. V. 1969, C. Wormald. Off Kaipara Head, 36° 22' S, 173° 38' E, 260 fm (475 m), 20. VII. 1969, "James Cook" DM 4902. Off Coromandel 36° 32' S, 176° 14' E, 264-304 fm (482-555 m), "Valkyrie", —. I. 1967, DM 5010.

Greatest depth 1.3 - 1.4 head 2.5 - 2.3 in standard length (240-292 mm). Eye 2.8 - 3.1, snout 1.9 - 1.8 in head. Interorbital 1.5 - 1.8 in eye. Gill rakers (1 specimen, 240 mm), 15 + 1, club shaped, lightly spinose over inner upper border. D ix 35, A ii 36, P 17, V i 6. L. 1. 113 + few scales missing, 11 scales from highest point of lateral line to dorsal profile.

This species has been described in three separate publications which appeared in close succession. Priority is held by *Cyttus ventralis* Barnard and Davies (1946) over *Cyttoides jacksoni* Smith (1946, p. 795-796) and *Cyttus mccullochi* Whitley (1948b, p. 148-149).

Previous distribution. South Africa and Australia.

Zenion leptolepis Gilchrist and von Bonde

(Fig. 2)

Cyttus leptolepis Gilchrist and von Bonde, 1924, Rep. Fish. mar. biol. Surv. Un. S. Afr. No. 3:17.

Material examined. E of Aldermen Is, trawled 200-260 fm (365-475 m), 8-12. VI. 1969, C. Wormald. 37° 17' S, 175° 01' E, Fishing Industry Board (F.I.B.) prawn cruise, R. D. Cooper, DM 5342. 37° 11' S, 176° 19' E, F.I.B. prawn cruise, 9.I.1969, R. D. Cooper, DM 5391. 37° 01' S, 176° 14' E. F.I.B. prawn cruise, 9.I.1969, R. D. Cooper, DM 5392. NE of Cavalli Is, trawled 260 fm (475 m), Marine Department, 23.XI.1962, DM 5442. N 30° E Poor Knights Is, trawled 256-267 fm (467-488 m), Marine Department, 20.XI.1962, DM 5443. NNE Arid I, trawled 200 fm (365 m), Marine Department, 9.XI.1962, DM 5444.

Greatest depth 2.7, head 2.7 in standard length (1 specimen, 75 mm). Eye 2.8, snout 3.8 in head. Interorbital 1.6 in eye, gill rakers 6 + 12 narrowly triangular, curve obliquely inwards, finely toothed along inner border. D vii 28, A i 31, P 15, V i 6. LL 70 + scales missing.

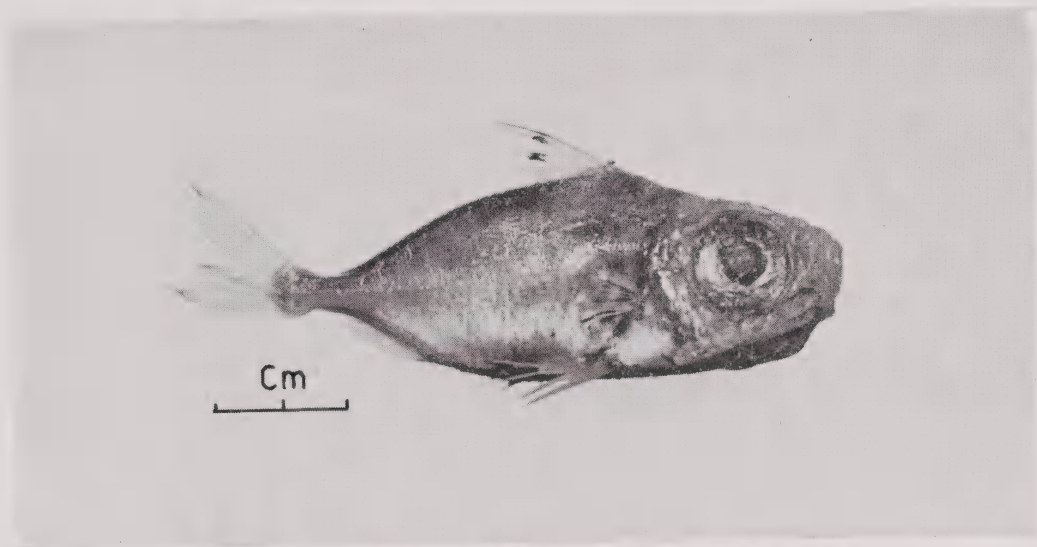


Fig. 2. *Zenion leptolepis* Gilchrist & von Bonde. Lateral view.

Body proportions of material in Dominion Museum collections not recorded, but specimens range in standard length 39.6 - 74.0 mm.
Previous distribution. South Africa.

Family BERYCIDAE

Actinoberyx longipinnis (Barnard)

(Fig. 3)

Beryx longipinnis Barnard, 1925, Ann. Mag. nat. Hist. (9) 15:504.

Material examined. E of Aldermen Is, trawled 200-260 fm (365-475 m), 28-31. V. 1969, C. Wormald. SE of Mayor I, trawled 200 fm (365 m), VII. 1970, pers comm. J. M. Moreland. DM 5237.

Greatest depth, 2.1, head 3.1 in standard length (207 mm). Eye 2.3, snout 4.4 in head. Interorbital 1.9 in eye. Gill rakers 18 + 7, narrowly ovate, finely serrate along inner border. D iv 20, A iv 29, P 15, V i 10. L.1. 60.

Previous distribution. South Africa.

Family EPINEPHELIDAE

Epinephelus damelii (Gunther)

Serranus damelii Gunther, 1876 Ann. Mag. nat. Hist. (4) 18:391.

Material examined. Nursery Bay, Poor Knights Is, speared. —. I.1970, R. Grace. Skull Bay, Poor Knights Is, speared 5 fm (9.1 m), 25.II.1970, B. Russell. Doubtless Bay towards

Whangaroa, handline, 25.II.1970, L. Freer. Urupukapuka I, Bay of Is, sub-littoral poisoning 12 ft (3.6 m), II.1961, J. M. Moreland, DM 3149. Urupukapuka I, Bay of Is, II-III.1960, J. M. Moreland, DM 3159. Cape Karekare, speared 10 ft (3.0 m), III.1967, A. Dobbins, DM 4836. Cape Brett, rock crevice 20 ft (6.0 m), 12.IV.1970, B. Crane, DM 5122. Stephenson's I, under rock 20 ft (6.0 m), 8.II.1970, B. Crane, DM 5096.

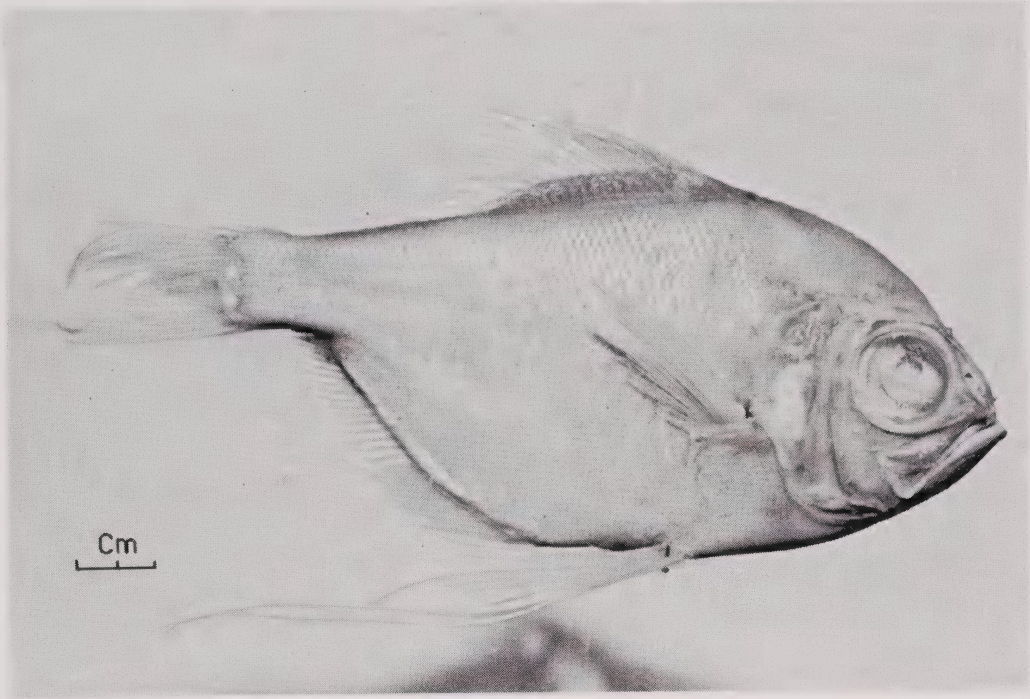


Fig. 3. *Actinoberyx longipinnis* (Barnard). Lateral view.

Greatest depth 3.0 - 3.1, head 2.4 - 2.6 in standard length (337 - 450 mm). Eye 9.2 - 8.1, snout 3.8 - 4.0 in head. Interorbital 0.6 - 0.7 in eye. Gill rakers (2 specimens 410, 450 mm) 16 + 8, 16 + 10, club shaped, bearing spines. D xi 14, A iii 9, P 17, V i 5, L.1. 72 - 73.

Waite (1916, p. 435), while listing affinities in the fish fauna of Lord Howe, Norfolk and Kermadec Islands, indicated the presence of this species in New Zealand waters, but without further comment. Its inclusion in a checklist of New Zealand fishes by Whitley (1968, p. 55) was probably based on Waite (1916).

Previous distribution. Coast of New South Wales, Lord Howe, Norfolk and Kermadec Islands.

Family CHAUNACIDAE

Chaunax penicillatus McCulloch

(Fig. 4)

Chaunax penicillatus McCulloch, 1915, Zool. (biol.) Results Fish. Exped. "Endeavour" 3 (3); 167-168, pl. 33, fig. 2.

Material examined. E of Aldermen Is, trawled 200-260 fm (365-475 m), 8-12.VI.1969, C. Wormald.

Head 1.4 in standard length (120 mm). Eye 11.9, snout 8.3 in head. Interorbital, between eye openings on skin, greater than snout, 0.4 in eye. D i 11, A 7, P 13, C 8. Rostral tentacle short, covered with a dense mat of papillae, upper surface and cavity black; features on which McCulloch 1915, p. 167 bases the species. Dermal filaments completely absent.

Previous distribution. Off Victoria and New South Wales, Australia.

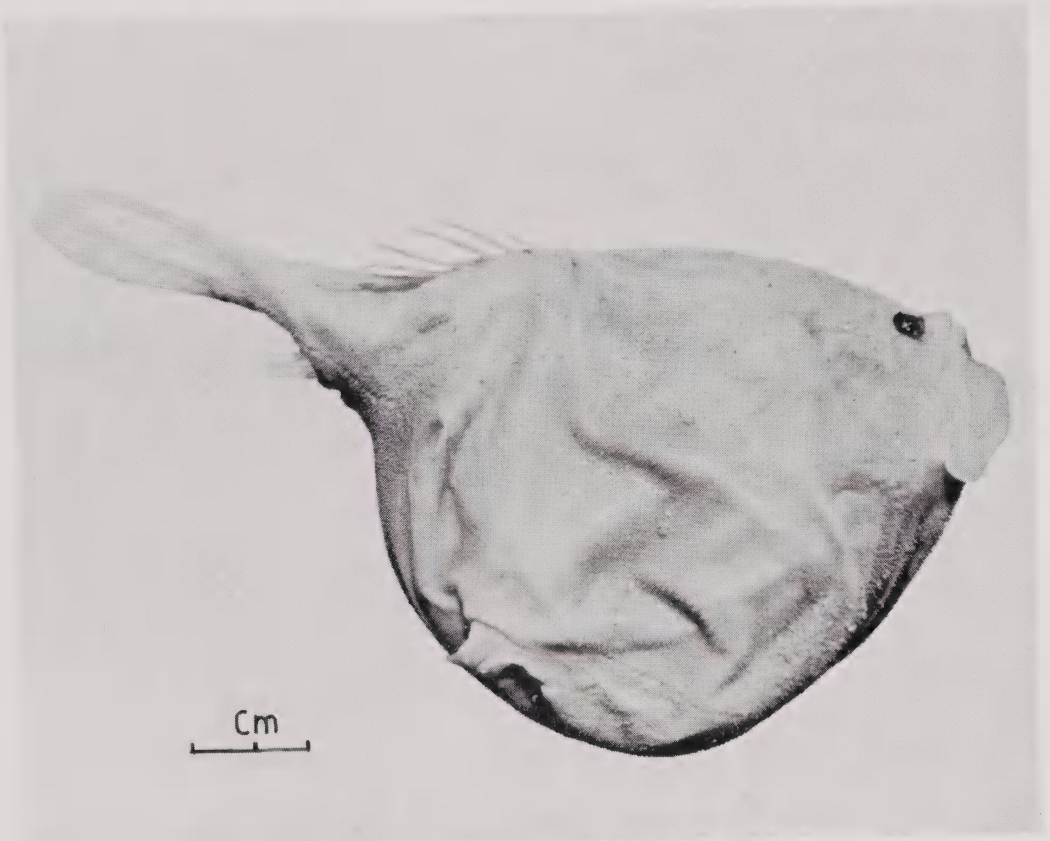


Fig. 4. *Chaunax penicillatus* McCulloch. Lateral view.

Chaunax pictus Lowe

Chaunax pictus Lowe, 1846, Proc. zool. Soc. Lond. 14 : 81-83.

Material examined. 30° 45' S, 173° 51' E, trawled 294-370 fm (537-676 m), 6.VII.1962. "Tui" Oceanographic Cruise stn. A.U.Z. 011.02, DM 5525.

Head 1.6 in standard length (89 mm). Eye 8.1, snout 6.6 in head. Interorbital, between eye openings on skin, greater than snout, 0.6 in eye. D i 11, A 7, P 13, C 8. Rostral tentacle club shaped, fimbriated at head, same colour as surrounding skin. Body colour in alcohol pale, but spots on upper surface still discernible.

Previous distribution. From very scattered localities including Madeira (Nth. Atlantic), South Africa, Sea of Japan and South Pacific waters.

Some difficulties have been experienced in determining speciation within this genus, which could be attributed to a saccular morphology and a rarity of specimens. The separation of the species discussed here is entirely reliant on the external nature of the rostral tentacle, but with no regard to its derivation or function. A detailed investigation of this feature could have an important bearing on its usefulness as a species character, and the validity of these species.

Family LAGOCEPHALIDAE

Liosaccus cutaneus (Gunther)

Tetrodon cutaneus Gunther, 1870, Cat. Fish Brit. Mus. 8 : 287.

Material examined. E of Aldermen Is, trawled 200-260 fm (365-475 m), 8-12.VI.1969, C. Wormald. Bay of Plenty, trawled 60 fm (109 m), 14.VII.1956, K. Fraser, DM 2010. Off Cape Karekare trawled 90 fm (164 m), 19.VI.1958, F. Shirley, DM 2598.

Head 2.5 - 2.7 in standard length (166 - 205 mm), snout 2.1 - 2.0, eye 5.0 - 4.7 in head. Interorbital approximately equals snout, 0.5 - 0.45 in eye. Gill rakers (1 specimen 205 mm) 10 + 1, club shaped with papillate outgrowths over head. D 9, A 8, P 15. Skin smooth but covered with fine striations. Lips fleshy and covered with papillae. Anal fin commencing under posterior edge of dorsal.

Whitley (1928, p.238) in discussing the affinities of his *Liosaccus acrobaticus* separated the species on variation in proportional measurements from *L. cutaneus*. A comparison of these measurements (Table 1) and descriptions of *Liosaccus* from the accounts of Gunther (1870, p. 287), Fowler (1920, p. 206), Whitley (1928, p. 237) and from New Zealand material shows sufficient conformity to suggest only one species, *L. cutaneus* by priority.

Table 1. A comparison of measurements recorded for *Liosaccus* sp.

| | N.Z. Specimens | | St Helena (Gunther) | W. Africa (Fowler) | Australia (Whitley) |
|---------------------|-------------------|-----|------------------------|-----------------------|------------------------|
| Standard length | 166 | 205 | — | 248 | 177 |
| Head in SL | 2.5 | 2.7 | — | 2.6 | 2.5 |
| Snout in head | 2.1 | 2.0 | rather long | 1.8 | 1.9 |
| Eye in head | 3.0 | 4.7 | 4.5 | 4.75 | 5.0 |
| Eye in snout | 2.3 | 2.2 | 2.5 | 2.6 | 2.6 |
| Eye in interorbital | 1.7 | 2.1 | Not much less | 1.6 | 2.5 |
| D | 9 | 9 | 9 | ii.6 | i.8 |
| A | 8 | 8 | — | ii.6 | ii.7 |
| P | 14 | 15 | — | i.14 | i.15 |

Previous distribution. St Helena and Azores Islands (Atlantic Ocean), South Africa, and New South Wales.

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REFERENCES

- BARNARD, K. H.
 1925 Descriptions of new species of marine fishes from South Africa. *Ann. Mag. nat. Hist.* (9) 15: 498-504.
- BARNARD, K. H. and D. H. DAVIES
 1946 Description of a new fish of the family ZEIDAE from the Cape. *Ann. Mag. nat. Hist.* (11) 13: 790-792.
- BOULENGER, G. A.
 1902 Description of a new deep-sea gadid fish from South Africa. *Ann. Mag. nat. Hist.* (7) 9: 335-336.
- FOWLER, H. W.
 1920. The fishes of the United States Eclipse Expedition to West Africa. *Proc. U.S. natn. Mus.* 56: 195-292.
- GILCHRIST, J. D. F. and C. VON BONDE
 1924 Deep-sea fishes procured by the S.S. "Pickle" (part 2). *Rep. Fish. mar. biol. Sur. Un. S. Afr.* No. 3: 17.
- GUNTHER, A.
 1870 *Catalogue of the fishes in the British Museum* 8. pp. 1-549.
- LOWE, R. T.
 1846. On a new genus of the family LOPHIDAE discovered in Madeira. *Proc. zool. Soc. Lond.* 14: 81-83.
- MCCULLOCH, A. R.
 1915 Reports on some fishes obtained by the F.I.S. Endeavour on the coasts of Queensland, New South Wales, Victoria, Tasmania, South and South Western Australia. *Zool. (biol.) Results Fish. Exp. "Endeavour"* 3 (3): 97-170.
- SMITH, J. L. B.
 1946 New species and new records of fishes from South Africa. *Ann. Mag. nat. Hist.* (11) 13: 793-821.
- WAITE, E. R.
 1916 A list of the fishes of Norfolk Island and Indication of this range to Lord Howe Island, Kermadec Island, Australia and New Zealand. *Trans. Proc. R. Soc. S. Aust.* 40: 452-459.
- WEBER, M. and L. F. DE BEAUFORT
 1929 *The fishes of the Indo-Australia Archipelago*. 5. pp. 1-458.
- WHITLEY, G. P.
 1928 Studies in Ichthyology. No. 2. *Rec. Aust. Mus.* 16 (14): 211-240.
 1948a Studies in Ichthyology No. 13. *Rec. Aust. Mus.* 22 (1): 70-94.
 1948b New sharks and fishes from Western Australia. *Aust. Zool.* 11 (3): 129-150.
 1968 A checklist of the fishes recorded from the New Zealand region. *Aust. Zool.* 15 (1): 1-102.